

IN THE CLAIMS:

1. (Currently Amended) A beverage maker comprising:

a water reservoir (2);

a closed water boiler (5);

a beverage brewing unit (8);

a water supply channel (25) interconnecting the water reservoir (2) and the closed water boiler (5);

a water discharge channel (19) interconnecting the boiler (5) and the beverage brewing unit (8);

a pump (3) for pumping water from the boiler (5) to the beverage brewing unit (8);

a return channel (25) interconnecting the reservoir (2) and the boiler (5); and

a valve structure (7; 47; 107) having an inlet (9; 109) connected for water inflow from the boiler (5) and the pump (3), a return outlet (16; 116) connected for returning water to the reservoir (2), and a discharge outlet (20; 120) connected for water outflow to the brewing unit (8), the valve structure (13; 43; 153) being adapted for:

preventing water passage from said inlet (9; 109) to said return outlet (16; 116) if the water pressure at said inlet (9; 109) is below a relief pressure value;

allowing water passage from said inlet (9; 109) to said return outlet (16; 116) if the water pressure at said inlet (9; 109) is above said relief pressure value and below a shut-off pressure;

preventing water passage from said inlet (9; 109) to said return outlet (16; 116) if the water pressure at said inlet (9; 109) is above said shut-off pressure value;

preventing water passage from said inlet (9; 109) to said discharge outlet (20; 120) if the water pressure at said inlet (9; 109) is below a discharge pressure value; and

allowing water passage from said inlet (9; 109) to said discharge outlet (20; 120) if the water pressure at said inlet (9; 109) is above said discharge pressure value;

wherein said relief pressure value, said shut-off pressure value, and said discharge pressure value are predetermined at least to the extent that:

said relief pressure value is above atmospheric pressure;

said relief pressure value is lower than each of said shut-off pressure value and said discharge pressure value; and

said shut-off pressure value and said discharge pressure value are each lower than a pumping pressure at said inlet (9; 109) generated by said pump (3) when said pump is in operation.

2. (Original) A beverage maker according to claim 1, wherein the valve structure (7; 47) comprises:

a return flow control valve (13; 43) between an inlet portion (14) connected for water inflow from the boiler (5) and the pump (3) and said return outlet (18), said return flow control valve (13; 43) being adapted for:

preventing water passage from said inlet (9) to said return outlet (16) if the water pressure at said inlet portion (14) is below said relief pressure value;

allowing water passage from said inlet (9) to said return outlet (16) if the water pressure at said inlet portion (14) is above said relief pressure value and below said shut-off pressure; and

preventing water passage from said inlet (9) to said return outlet (16) if the water pressure at said inlet portion (14) is above said shut-off pressure value; and

a discharge control valve (10) between the inlet (9) and the discharge outlet (20), the discharge control valve (10) being adapted for:

preventing water passage from said inlet (9) to said discharge outlet (20) if the water pressure at said inlet (9) is below said discharge pressure value; and

allowing water passage from said inlet (9) to said discharge outlet (20) if the water pressure at said inlet (9) is above said discharge pressure value.

3. (Original) A beverage maker according to claim 1, wherein the valve structure (107) comprises:

a return flow control valve (153) between an inlet portion (154) connected for water inflow from the boiler (5) and the pump (3) and the return outlet (116), the return flow control valve (153) being adapted for:

preventing water passage from said inlet (109) to said return outlet (116) if the water pressure at said inlet portion (154) is below said relief pressure value; and

allowing water passage from said inlet (109) to said return outlet (116) if the water pressure at said inlet portion (154) is above said relief pressure value and below said shut-off pressure; and

a discharge and return flow control valve (110) downstream of the inlet (109) and upstream of the discharge outlet (120) and the return outlet (116), the discharge and return flow control valve (110) being adapted for:

preventing water passage from said inlet (109) to said return outlet (116) if the water pressure at said inlet (109) is above said shut-off pressure value;

preventing water passage from said inlet (109) to said discharge outlet (120) if the water pressure at said inlet (109) is below said discharge pressure value; and

allowing water passage from said inlet (109) to said discharge outlet (120) if the water pressure at said inlet (109) is above said discharge pressure value.

4. (Previously Presented) A beverage maker according to claim 1, wherein said discharge pressure value is predetermined to be equal to or higher than said shut-off pressure value.
5. (Previously Presented) A beverage maker according to claim 1, wherein said relief pressure value is at least 0.1 bar over atmospheric pressure.
6. (Previously Presented) A beverage maker according to claim 1, wherein said relief pressure value is at most 0.5 bar over atmospheric pressure.
7. (Previously Presented) A beverage maker according to claim 1, wherein said shut-off pressure value is at least 0.4 bar over atmospheric pressure.
8. (Previously Presented) A beverage maker according to claim 1, wherein said shut-off pressure value is at most 1.4 bar over atmospheric pressure.
9. (Previously Presented) A beverage maker according to claim 1, wherein said discharge pressure is at least 0.8 bar over atmospheric pressure

10. (Previously Presented) A beverage maker according to claim 2, wherein the discharge control valve has a valve body (11; 111), the return flow control valve (13; 43; 153) being an integral part of the discharge control valve body (11; 111).
11. (Previously Presented) A beverage maker according to claim 1, wherein the valve structure is dimensioned for venting all water flow caused by expansion in the boiler owing to a pressure lying above the relief pressure and induced by the heater (30).
12. (Previously Presented) A beverage maker according to claim 1, further comprising a restriction (21) in the discharge channel (19) downstream of and closely adjacent to the valve body (11) of the discharge control valve (10; 110).
13. (Previously Presented) A beverage maker according to claim 1, wherein, in closed condition, a valve body (11) preventing water passage from said inlet (9) to said discharge outlet has a first surface area communicating with the boiler (5) and, in opened condition allowing water passage from said inlet (9) to said discharge outlet, said valve body (11) has a second surface area communicating with the boiler (5), said second surface area being larger than said first surface area.
14. (Previously Presented) A beverage maker according to claim 2, wherein the discharge control valve (10; 110) and the return flow control valve (43) are coupled for causing the return flow control valve (43) to be closed off in response to an opening of the discharge control valve (10; 110).